

Session 10

Pricing Carbon is Inevitable

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Across history, energy has played a key role in the human development achievements. From the discovery of fire to the oil age, the use of every new source of energy has changed the way humankind has improved its welfare. Nowadays, we are facing a new energy revolution that should give birth to a more sustainable energy system, certainly not based on fossil fuels, but on more sustainable energy sources that will ensure the security of supply while reducing the environmental impacts and capable at the same time of providing economic competitiveness. In this new energy system, electricity will be the preferred energy vector, to attend all the needed services, including transportation.

The transition to this new energy system will need huge investments. In the next two decades only the electricity sector will need 17 trillion Euros according to the IEA new policies scenario. This investment should secure the supply and delivery of electricity to the costumers while allowing the incorporation to the electricity system of 1,3 billion people still “unplugged”.

But energy being a long-term and very capital-intensive sector, the required investment in low carbon technologies will not be realised unless regulatory framework provides stable and sufficient revenue streams. Cost effective and credible policies with a clear vision of technology roadmaps (in line with local needs and opportunities) appear to be crucial for this transformation. This stable regulation should offer security to the agents willing to increase investments in cleaner technologies and allowing them access to the required capital, as well as lowering the financing costs.

One of these key regulations related to the climate change fight is, according to the IPCC, to put a price on carbon. Businesses see that carbon pricing is the most efficient and cost effective means of reducing emissions, leading them to voice support for carbon pricing, if we are to produce a package of effective and cost-efficient policies to support scaled up mitigation pricing carbon is inevitable.

The transformation will not only affect the supply and distribution side, but also the demand side. Technologies will change the way electricity is used. Technologies such as distributed generation (mainly PV and Residential combined heat and power), energy efficiency, electric transportation, electric heating and cooling, etc. will allow a new relationship between the customer and the energy agents.

New technologies both in the supply and in the demand side still have to be developed, but if reduction of the emissions is the goal, this should be achieved through the least costly technologies by phasing in affordable mature low carbon technologies in the first place and designing technological/regional R&D roadmaps for non-mature technologies until those have proven their capability to ride down the experience curve to affordable levels.

Iberdrola is following this pathway. As wind is the most cost effective renewable energy, Iberdrola has heavily invested in it, being in 2014 the first world wind-supplier with more than 14 GW of installed wind-energy. At the same time, Iberdrola is running an ambitious R&D program trying to bring forward the other non-mature technologies. Two pillars of this program are the Corporate Venture fund Perseo, designed to invest in breakthrough technologies all over the world, and the new technologies demonstration projects that allow these non-mature technologies to reach the commercial level through the setup of pilot plants.

Through Perseo, Iberdrola is at the forefront of new technologies such as Wave energy, Tidal energy, Concentrated Photovoltaics, Carbon Capture and Sequestration or Energy from Algae. At the same time is present in the new breakthrough business models related to distributed resources such as distributed storage, and virtual power plants.